Finding System Information:

```
uname –a
cat /etc/redhat-release
dmidecode
```

<u>uname:</u>

Sometimes it is required to quickly determine details like kernel name, version, hostname, etc of the Linux box you are using.

Even though you can find all these details in respective files present under the proc filesystem, it is easier to use uname utility to get these information quickly.

The basic syntax of the uname command is:

uname [OPTION]...

Now lets look at some examples that demonstrate the usage of ‘uname’ command.
uname without any option

When the ‘uname’ command is run without any option then it prints just the kernel name. So the output below shows that its the ‘Linux’ kernel that is used by this system.

$ uname
Linux

You can also use uname -s, which also displays the kernel name.

$ uname -s
Linux

Get the network node host name using -n option

Use uname -n option to fetch the network node host name of your Linux box.

$ uname -n
dev-server

The output above will be the same as the output of the hostname command.
Get kernel release using -r option

uname command can also be used to fetch the kernel release information. The option -r can be used for this purpose.

$ uname -r
2.6.32-100.28.5.el6.x86_64

Get the kernel version using -v option

uname command can also be used to fetch the kernel version information. The option -v can be used for this purpose.

$ uname -v
#1 SMP Wed Feb 2 18:40:23 EST 2011

Get the machine hardware name using -m option

uname command can also be used to fetch the machine hardware name. The option -m can be used for this purpose. This indicates that it is a 64-bit system.

$ uname -m
x86_64

Get the processor type using -p option

uname command can also be used to fetch the processor type information. The option -p can be used for this purpose. If the uname command is not able to fetch the processor type information then it produces 'unknown' in the output.

$ uname -p
x86_64

Sometimes you might see 'unknown' as the output of this command, if uname was not able to fetch the information on processor type.
Get the hardware platform using -i option

uname command can also be used to fetch the hardware platform information. The option -i can be used for this purpose. If the uname command is not able to fetch the hardware platform information then it produces 'unknown' in the output.

$ uname -i
x86_64

Sometimes you might see 'unknown' as the output of this command, if uname was not able to fetch the information about the platform.

Get the operating system name using the -o option

uname command can also be used to fetch the operating system name. The option -o can be used for this purpose.

For example :

$ uname -o
GNU/Linux

cat /etc/redhat-release:

- This file provides information about your system distribution and its version
- You can also run /etc/*rel* for systems that are not on CentOS or Redhat

`Dmidecode:`

dmidecode is a tool for dumping a computer's DMI (some say SMBIOS) table contents in a human-readable format. This table contains a description of the system's hardware components, as well as other useful pieces of information such as serial numbers and BIOS revision. Thanks to this table, you can retrieve this information without having to probe for the actual hardware.

Take a look at

man dmidecode

to find out all options. The most common option is the --type switch which takes one or more of the following keywords:

bios, system, baseboard, chassis, processor, memory, cache, connector, slot

You can as well specify one or more of the following numbers:

```
Type   Information
----------------------------------------
  0   BIOS
  1   System
```

2 Base Board
3 Chassis
4 Processor
5 Memory Controller
6 Memory Module
7 Cache
8 Port Connector
9 System Slots
10 On Board Devices
11 OEM Strings
12 System Configuration Options
13 BIOS Language
14 Group Associations
15 System Event Log
16 Physical Memory Array
17 Memory Device
18 32-bit Memory Error
19 Memory Array Mapped Address
20 Memory Device Mapped Address
21 Built-in Pointing Device
22 Portable Battery
23 System Reset
24 Hardware Security
25 System Power Controls
26 Voltage Probe
27 Cooling Device
28 Temperature Probe
29 Electrical Current Probe
30 Out-of-band Remote Access
31 Boot Integrity Services
32 System Boot
33 64-bit Memory Error
34 Management Device
35 Management Device Component
36 Management Device Threshold Data
37 Memory Channel
38 IPMI Device
39 Power Supply

Each keyword is equivalent to a list of type numbers:

```
Keyword     Types
------------------------------
bios        0, 13
```

system 1, 12, 15, 23, 32
baseboard 2, 10
chassis 3
processor 4
memory 5, 6, 16, 17
cache 7
connector 8
slot 9

Here are a few sample outputs from one of my servers:

`dmidecode --type bios`

```
server1:/home/admin# dmidecode --type bios
# dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x0000, DMI type 0, 24 bytes
BIOS Information
    Vendor: American Megatrends Inc.
    Version: V1.5B2
    Release Date: 10/31/2007
    Address: 0xF0000
    Runtime Size: 64 kB
    ROM Size: 1024 kB
    Characteristics:
        ISA is supported
        PCI is supported
        PNP is supported
        APM is supported
        BIOS is upgradeable
        BIOS shadowing is allowed
        ESCD support is available
        Boot from CD is supported
        Selectable boot is supported
        BIOS ROM is socketed
        EDD is supported
        5.25"/1.2 MB floppy services are supported (int 13h)
        3.5"/720 KB floppy services are supported (int 13h)
        3.5"/2.88 MB floppy services are supported (int 13h)
        Print screen service is supported (int 5h)
```

8042 keyboard services are supported (int 9h)
Serial services are supported (int 14h)
Printer services are supported (int 17h)
CGA/mono video services are supported (int 10h)
ACPI is supported
USB legacy is supported
LS-120 boot is supported
ATAPI Zip drive boot is supported
BIOS boot specification is supported
Targeted content distribution is supported
BIOS Revision: 8.14

Handle 0x0028, DMI type 13, 22 bytes
BIOS Language Information
Installable Languages: 1
en|US|iso8859-1
Currently Installed Language: en|US|iso8859-1

server1:/home/admin#

dmidecode --type system

server1:/home/admin# dmidecode --type system
dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x0001, DMI type 1, 27 bytes
System Information
Manufacturer: MICRO-STAR INTERANTIONAL CO.,LTD
Product Name: MS-7368
Version: 1.0
Serial Number: To Be Filled By O.E.M.
UUID: Not Present
Wake-up Type: Power Switch
SKU Number: To Be Filled By O.E.M.
Family: To Be Filled By O.E.M.

Handle 0x0027, DMI type 12, 5 bytes
System Configuration Options

Option 1: To Be Filled By O.E.M.

server1:/home/admin#

dmidecode --type baseboard

```
server1:/home/admin# dmidecode --type baseboard
# dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x0002, DMI type 2, 15 bytes
Base Board Information
    Manufacturer: MICRO-STAR INTERANTIONAL CO.,LTD
    Product Name: MS-7368
    Version: 1.0
    Serial Number: To be filled by O.E.M.
    Asset Tag: To Be Filled By O.E.M.
    Features:
        Board is a hosting board
        Board is replaceable
    Location In Chassis: To Be Filled By O.E.M.
    Chassis Handle: 0x0003
    Type: Motherboard
    Contained Object Handles: 0

Handle 0x0025, DMI type 10, 6 bytes
On Board Device Information
    Type: Video
    Status: Enabled
    Description:   To Be Filled By O.E.M.

server1:/home/admin#
```

dmidecode --type chassis

```
server1:/home/admin# dmidecode --type chassis
# dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x0003, DMI type 3, 21 bytes
Chassis Information
    Manufacturer: To Be Filled By O.E.M.
    Type: Desktop
    Lock: Not Present
```

Version: To Be Filled By O.E.M.
Serial Number: To Be Filled By O.E.M.
Asset Tag: To Be Filled By O.E.M.
Boot-up State: Safe
Power Supply State: Safe
Thermal State: Safe
Security Status: None
OEM Information: 0x00000000
Heigth: Unspecified
Number Of Power Cords: 1
Contained Elements: 0

server1:/home/admin#

dmidecode --type processor

server1:/home/admin# dmidecode --type processor
dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x0004, DMI type 4, 40 bytes
Processor Information
Socket Designation: CPU 1
Type: Central Processor
Family: Other
Manufacturer: AMD
ID: B2 0F 06 00 FF FB 8B 17
Version: AMD Athlon(tm) 64 X2 Dual Core Processor 5600+
Voltage: 1.5 V
External Clock: 200 MHz
Max Speed: 2800 MHz
Current Speed: 2900 MHz
Status: Populated, Enabled
Upgrade: Other
L1 Cache Handle: 0x0005
L2 Cache Handle: 0x0006
L3 Cache Handle: 0x0007
Serial Number: To Be Filled By O.E.M.
Asset Tag: To Be Filled By O.E.M.
Part Number: To Be Filled By O.E.M.

server1:/home/admin#

dmidecode --type memory

```
server1:/home/admin# dmidecode --type memory
# dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x0008, DMI type 5, 20 bytes
Memory Controller Information
        Error Detecting Method: 64-bit ECC
        Error Correcting Capabilities:
                None
        Supported Interleave: One-way Interleave
        Current Interleave: One-way Interleave
        Maximum Memory Module Size: 512 MB
        Maximum Total Memory Size: 1024 MB
        Supported Speeds:
                70 ns
                60 ns
        Supported Memory Types:
                SIMM
                DIMM
                SDRAM
        Memory Module Voltage: 3.3 V
        Associated Memory Slots: 2
                0x0009
                0x000A
        Enabled Error Correcting Capabilities:
                None

Handle 0x0009, DMI type 6, 12 bytes
Memory Module Information
        Socket Designation: DIMM0
        Bank Connections: 0 5
        Current Speed: 161 ns
        Type: ECC DIMM
        Installed Size: 1024 MB (Double-bank Connection)
        Enabled Size: 1024 MB (Double-bank Connection)
        Error Status: OK

Handle 0x000A, DMI type 6, 12 bytes
Memory Module Information
        Socket Designation: DIMM1
        Bank Connections: 0 5
        Current Speed: 163 ns
        Type: ECC DIMM
```

Installed Size: 1024 MB (Double-bank Connection)
Enabled Size: 1024 MB (Double-bank Connection)
Error Status: OK

Handle 0x0029, DMI type 16, 15 bytes
Physical Memory Array
Location: System Board Or Motherboard
Use: System Memory
Error Correction Type: None
Maximum Capacity: 8 GB
Error Information Handle: Not Provided
Number Of Devices: 2

Handle 0x002B, DMI type 17, 27 bytes
Memory Device
Array Handle: 0x0029
Error Information Handle: Not Provided
Total Width: 64 bits
Data Width: 72 bits
Size: 1024 MB
Form Factor: DIMM
Set: None
Locator: DIMM0
Bank Locator: BANK0
Type: DDR2
Type Detail: Synchronous
Speed: 333 MHz (3.0 ns)
Manufacturer: Manufacturer0
Serial Number: SerNum0
Asset Tag: AssetTagNum0
Part Number: PartNum0

Handle 0x002D, DMI type 17, 27 bytes
Memory Device
Array Handle: 0x0029
Error Information Handle: Not Provided
Total Width: 64 bits
Data Width: 72 bits
Size: 1024 MB
Form Factor: DIMM
Set: None
Locator: DIMM1
Bank Locator: BANK1
Type: DDR2

```
    Type Detail: Synchronous
    Speed: 333 MHz (3.0 ns)
    Manufacturer: Manufacturer1
    Serial Number: SerNum1
    Asset Tag: AssetTagNum1
    Part Number: PartNum1

server1:/home/admin#
```

dmidecode --type cache

```
server1:/home/admin# dmidecode --type cache
# dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x0005, DMI type 7, 19 bytes
Cache Information
    Socket Designation: L1-Cache
    Configuration: Enabled, Not Socketed, Level 1
    Operational Mode: Varies With Memory Address
    Location: Internal
    Installed Size: 256 KB
    Maximum Size: 256 KB
    Supported SRAM Types:
        Pipeline Burst
    Installed SRAM Type: Pipeline Burst
    Speed: Unknown
    Error Correction Type: Single-bit ECC
    System Type: Data
    Associativity: 4-way Set-associative

Handle 0x0006, DMI type 7, 19 bytes
Cache Information
    Socket Designation: L2-Cache
    Configuration: Enabled, Not Socketed, Level 2
    Operational Mode: Varies With Memory Address
    Location: Internal
    Installed Size: 1024 KB
    Maximum Size: 1024 KB
    Supported SRAM Types:
        Pipeline Burst
    Installed SRAM Type: Pipeline Burst
    Speed: Unknown
    Error Correction Type: Single-bit ECC
```

```
    System Type: Unified
    Associativity: 4-way Set-associative

Handle 0x0007, DMI type 7, 19 bytes
Cache Information
    Socket Designation: L3-Cache
    Configuration: Disabled, Not Socketed, Level 3
    Operational Mode: Unknown
    Location: Internal
    Installed Size: 0 KB
    Maximum Size: 0 KB
    Supported SRAM Types:
        Unknown
    Installed SRAM Type: Unknown
    Speed: Unknown
    Error Correction Type: Unknown
    System Type: Unknown
    Associativity: Unknown

server1:/home/admin#
```

```
dmidecode --type connector
```

```
server1:/home/admin# dmidecode --type connector
# dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x000B, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J1A1
    Internal Connector Type: None
    External Reference Designator: PS2Mouse
    External Connector Type: PS/2
    Port Type: Mouse Port

Handle 0x000C, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J1A1
    Internal Connector Type: None
    External Reference Designator: Keyboard
    External Connector Type: PS/2
    Port Type: Keyboard Port

Handle 0x000D, DMI type 8, 9 bytes
```

Port Connector Information
    Internal Reference Designator: J2A2
    Internal Connector Type: None
    External Reference Designator: USB1
    External Connector Type: Access Bus (USB)
    Port Type: USB

Handle 0x000E, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J2A2
    Internal Connector Type: None
    External Reference Designator: USB2
    External Connector Type: Access Bus (USB)
    Port Type: USB

Handle 0x000F, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J4A1
    Internal Connector Type: None
    External Reference Designator: LPT 1
    External Connector Type: DB-25 male
    Port Type: Parallel Port ECP/EPP

Handle 0x0010, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J2A1
    Internal Connector Type: None
    External Reference Designator: COM A
    External Connector Type: DB-9 male
    Port Type: Serial Port 16550A Compatible

Handle 0x0011, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J6A1
    Internal Connector Type: None
    External Reference Designator: Audio Mic In
    External Connector Type: Mini Jack (headphones)
    Port Type: Audio Port

Handle 0x0012, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J6A1
    Internal Connector Type: None
    External Reference Designator: Audio Line In

External Connector Type: Mini Jack (headphones)
Port Type: Audio Port

Handle 0x0013, DMI type 8, 9 bytes
Port Connector Information
Internal Reference Designator: J6B1 - AUX IN
Internal Connector Type: On Board Sound Input From CD-ROM
External Reference Designator: Not Specified
External Connector Type: None
Port Type: Audio Port

Handle 0x0014, DMI type 8, 9 bytes
Port Connector Information
Internal Reference Designator: J6B2 - CDIN
Internal Connector Type: On Board Sound Input From CD-ROM
External Reference Designator: Not Specified
External Connector Type: None
Port Type: Audio Port

Handle 0x0015, DMI type 8, 9 bytes
Port Connector Information
Internal Reference Designator: J6J2 - PRI IDE
Internal Connector Type: On Board IDE
External Reference Designator: Not Specified
External Connector Type: None
Port Type: Other

Handle 0x0016, DMI type 8, 9 bytes
Port Connector Information
Internal Reference Designator: J6J1 - SEC IDE
Internal Connector Type: On Board IDE
External Reference Designator: Not Specified
External Connector Type: None
Port Type: Other

Handle 0x0017, DMI type 8, 9 bytes
Port Connector Information
Internal Reference Designator: J4J1 - FLOPPY
Internal Connector Type: On Board Floppy
External Reference Designator: Not Specified
External Connector Type: None
Port Type: Other

Handle 0x0018, DMI type 8, 9 bytes

Port Connector Information
    Internal Reference Designator: J9H1 - FRONT PNL
    Internal Connector Type: 9 Pin Dual Inline (pin 10 cut)
    External Reference Designator: Not Specified
    External Connector Type: None
    Port Type: Other

Handle 0x0019, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J1B1 - CHASSIS REAR FAN
    Internal Connector Type: Other
    External Reference Designator: Not Specified
    External Connector Type: None
    Port Type: Other

Handle 0x001A, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J2F1 - CPU FAN
    Internal Connector Type: Other
    External Reference Designator: Not Specified
    External Connector Type: None
    Port Type: Other

Handle 0x001B, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J8B4 - FRONT FAN
    Internal Connector Type: Other
    External Reference Designator: Not Specified
    External Connector Type: None
    Port Type: Other

Handle 0x001C, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J9G2 - FNT USB
    Internal Connector Type: Other
    External Reference Designator: Not Specified
    External Connector Type: None
    Port Type: Other

Handle 0x001D, DMI type 8, 9 bytes
Port Connector Information
    Internal Reference Designator: J6C3 - FP AUD
    Internal Connector Type: Other
    External Reference Designator: Not Specified

```
        External Connector Type: None
        Port Type: Other

Handle 0x001E, DMI type 8, 9 bytes
Port Connector Information
        Internal Reference Designator: J9G1 - CONFIG
        Internal Connector Type: Other
        External Reference Designator: Not Specified
        External Connector Type: None
        Port Type: Other

Handle 0x001F, DMI type 8, 9 bytes
Port Connector Information
        Internal Reference Designator: J8C1 - SCSI LED
        Internal Connector Type: Other
        External Reference Designator: Not Specified
        External Connector Type: None
        Port Type: Other

Handle 0x0020, DMI type 8, 9 bytes
Port Connector Information
        Internal Reference Designator: J9J2 - INTRUDER
        Internal Connector Type: Other
        External Reference Designator: Not Specified
        External Connector Type: None
        Port Type: Other

Handle 0x0021, DMI type 8, 9 bytes
Port Connector Information
        Internal Reference Designator: J9G4 - ITP
        Internal Connector Type: Other
        External Reference Designator: Not Specified
        External Connector Type: None
        Port Type: Other

Handle 0x0022, DMI type 8, 9 bytes
Port Connector Information
        Internal Reference Designator: J2H1 - MAIN POWER
        Internal Connector Type: Other
        External Reference Designator: Not Specified
        External Connector Type: None
        Port Type: Other

server1:/home/admin#
```

dmidecode --type slot

```
server1:/home/admin# dmidecode --type slot
# dmidecode 2.8
SMBIOS 2.5 present.

Handle 0x0023, DMI type 9, 13 bytes
System Slot Information
	Designation: AGP
	Type: 32-bit AGP 4x
	Current Usage: In Use
	Length: Short
	ID: 0
	Characteristics:
		3.3 V is provided
		Opening is shared
		PME signal is supported

Handle 0x0024, DMI type 9, 13 bytes
System Slot Information
	Designation: PCI1
	Type: 32-bit PCI
	Current Usage: Available
	Length: Short
	ID: 1
	Characteristics:
		3.3 V is provided
		Opening is shared
		PME signal is supported
```